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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,538	11/21/2003	Atsushi Hikita	OHT-0022	7981

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EXAMINER

MAZUMDAR, SONYA

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/717,538	Applicant(s) HIKITA, ATSUSHI	
	Examiner Sonya Mazumdar	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-11 in the reply filed on December 9, 2005 is acknowledged. The traversal is on the ground(s) that if the inventions can be searched together without serious burden, the examiner should consider both groups. This is not found persuasive because the specifics to examine a process, namely the stepwise claim limitations and the material undergoing a change in physical or chemical state, are not required when examining a product. Although a process claim may contain product limitations, they are only given patentable weight as to how the material effects the stepwise process. Furthermore, the two groups are classified in separate areas and would require separate searches.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected object, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on December 9, 2005.

Information Disclosure Statement

3. The information disclosure statement filed August 8, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the

Art Unit: 1734

application file, but the information in the office action for Chinese Application No.

100101 referred to therein has not been considered.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "6" and "7" have both been used to designate the key pad. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 8, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 11, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by

Art Unit: 1734

"or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding claim 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1, 3, 4, 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashizaki (US 2002/0063109) in view of Nishi (US 6451143) and Takemura et al. (JP 07164728)

Hayashizaki teaches decorating a molded object made of resin (6) decorated with a color design character or symbol, having empty symbol portions (B) there between. A colored layer (4) is printed on a transfer sheet (1). The colorant layer is

Art Unit: 1734

then transferred to the resin object and the transfer sheet is removed, forming a design on the resin object. (abstract; paragraphs 0009, 0017, 0026, 0034, 0039; Figures 1a-1g and 2)

Hayashizaki teaches providing a transparent layer (2) acting as a protection film over the colored layer (paragraph 0016; Figures 1a-1g), but does not disclose curing a transparent resin layer. Nishi teaches placing a transparent UV reactive hardening resin with an imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to cure a transparent resin to form a transparent resin layer over the colored layer. One would have been motivated to do so to provide protection for the indicator layer and increase durability for the key top.

Also, Hayashizaki does not teach printing a colored layer on a substrate sheet with an output apparatus that collectively outputs a colored design layer. Takemura et al. teach forming a translucent coloring layer on a base sheet by printing with gravure, screen-stencil, and roll coating. (paragraph 0020)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to print a colored layer on a substrate sheet with an output apparatus that collectively outputs a colored design layer, and one would have been motivated to do so to simplify application of the colored layer without the use of chemicals.

Furthermore, Hayashizaki does not teach peeling the transfer sheet leaving the color design layer onto the resin molded object. Takemura et al. discloses peeling of the base sheet (1) after transfer of the color design layer (2, 31, 32). (Drawing 5)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a transfer sheet capable of being peeled after transfer, and one would have been motivated to do so to remove the transfer sheet without any devices or further methods.

With respect to claim 2, Arai et al. teaches the image bearing layer being formed of a porous material having a binding phase composed of inorganic particles that are bound by a binder resin. (paragraph 0021)

With respect to claim 3, Hayashizaki teaches a colored layer with longitudinal openings (B) in a direction perpendicular to a plane of the transfer sheet. (Figure 2)

With respect to claim 4, Hayashizaki does not teach curing a transparent resin liquid with an active energy ray after deposition onto the colorant layer. Nishi teaches placing a transparent UV reactive hardening resin with the imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to cure a transparent resin liquid with an active energy ray after deposition onto the colorant layer. One would have been motivated to do so to choose a more economical drying process.

Art Unit: 1734

With respect to claim 7, Hayashizaki teaches transferring the colored layer (4) onto the back surface of the resin object (6) formed of a transparent resin. (paragraphs 0026 and 0034; Figure 2)

With respect to claim 8, Hayashizaki teaches forming a metallizing layer (3) for complementing a color before transferring the colorant layer onto the resin object. (paragraph 0021; Figures 1a-1g)

With respect to claim 10, Hayashizaki teaches forming an indicator portion to a pushbutton switch. (paragraph 0002)

With respect to claim 11, Hayashizaki teaches decorating a molded object made of resin (6) decorated with a color design character or symbol, having empty symbol portions (B) there between. A colored layer (4) is printed on a transfer sheet (1). The colorant layer is then transferred to the resin object and the transfer sheet is removed, forming a design on the resin object. (abstract; paragraphs 0009, 0017, 0026, 0034, 0039; Figures 1a-1g and 2)

Hayashizaki teaches providing a transparent layer (2) acting as a protection film over the colored layer (paragraph 0016; Figures 1a-1g), but does not disclose curing a transparent resin layer. Nishi teaches placing a transparent UV reactive hardening resin with an imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to cure a transparent resin to form a transparent resin layer over

Art Unit: 1734

the colored layer. One would have been motivated to do so to provide protection for the indicator layer and increase durability for the key top.

Furthermore, Hayashizaki does not teach printing a colored layer on a substrate sheet with an output apparatus that collectively outputs a colored design layer.

Takemura et al. teach forming a translucent coloring layer on a base sheet by printing with gravure, screen-stencil, and roll coating. (paragraph 0020)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to print a colored layer on a substrate sheet with an output apparatus that collectively outputs a colored design layer, and one would have been motivated to do so to simplify application of the colored layer without the use of chemicals.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashizaki in view of Nishi and Takemura et al. as applied to claim 4 and further in view of Fritz et al. (US 4082635)

Although Nishi teaches placing an UV reactive hardening resin with the imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2), the combined teachings of Hayashizaki, Nishi, and Takemura et al. do not teach leaving the transparent resin for a predetermined time period determined according to a viscosity of the transparent resin liquid. Fritz et al. teaches dependence of curing times on the viscosity of a UV-light curable adhesive composition. (column 1, lines 60-63).

It would be obvious to one having ordinary skill in the art at the time the invention was made to have knowledge of the viscosity of the transparent resin and determine a curing time. One would have been motivated to do so for easier processing and producing a cured material that is not brittle.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashizaki in view of Nishi and Takemura et al. as applied to claim 1 and further in view of Ingaki et al. (US 4937118)

Although Nishi teaches placing a transparent UV reactive hardening resin with the imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2), the combined teachings of Hayashizaki, Nishi, and Takemura et al. do not teach the resin having a certain viscosity or curing it for a certain period of time. Looking at the applicant's definition in the specification, the transparent resin is an active energy ray curing type resin (page 8, paragraph 0019). Ingaki et al. teaches curing an active energy ray-curable compound under UV light for 15 minutes at 2610 cps (2.61 pascal seconds). (column 18, lines 29-31)

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use a resin having a viscosity limits and curing time limits. One would have been motivated to do so in the effort to save time and improve production in the manufacture of key tops.

14. Claims 1, 2, 3, 7, 8, 9, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (US 2003/0221944) in view of Nishi.

Arai et al. teaches forming a decorative molded object made of resin (12) decorated with a color design image such as a letter, pattern, etc. A colorant layer (18) is formed on a porous base sheet (19) by a printer. The colorant layer is then transferred to the resin object and the base sheet is peeled off forming a design on the resin object. (abstract; Figures 2A-2E)

Arai et al. teaches providing a weatherproof resin layer containing a UV absorbing agent over the indicator layer (paragraph 0091), but does not disclose curing a transparent resin layer. Nishi teaches placing a transparent UV reactive hardening resin with the imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to cure a transparent resin to form a transparent resin layer. One would have been motivated to do so to provide protection for the indicator layer and increase durability for the key top.

With respect to claim 2, Arai et al. teaches the image bearing layer being formed of a porous material having a binding phase composed of inorganic particles that are bound by a resin binder. (paragraph 0023)

With respect to claim 3, Arai et al. teaches an image bearing layer with a large number of longitudinal openings in a direction perpendicular to a plane of the base sheet. (paragraph 0023)

With respect to claim 7, Arai et al. teaches transferring the colorant layer (13) onto the back surface of the resin object (12) formed of a transparent or semi-transparent resin. (paragraph 0020; Figures 1 and 2A-2E)

With respect to claim 8, Arai et al. teaches forming an auxiliary coloring layer (14) for complementing a color after transferring the colorant layer onto the resin object. (paragraph 0025; Figure 2E)

With respect to claim 9, Arai et al. teaches using an inkjet printer as the output apparatus for printing a color design image on a base sheet. (paragraph 0023)

With respect to claim 10, Arai et al. teaches forming an indicator portion to a pushbutton switch. (abstract; paragraph 0002)

With respect to claim 11, Arai et al. teaches forming a decorative molded object made of resin (12) decorated with a color design image such as a letter, pattern, etc. A colorant layer (18) is formed on a porous base sheet (19) by a printer. The colorant layer is then transferred to the resin object and the base sheet is peeled off forming a design on the resin object. (abstract; Figures 2A-2E)

Arai et al. teaches providing a weatherproof resin layer containing a UV absorbing agent over the indicator layer (paragraph 0091), but does not disclose curing a transparent resin layer. Nishi teaches placing a transparent UV reactive hardening resin with the imaged layer on the back of the resin key top, then irradiating the key top under UV rays (column 3, lines 17-19; column 5, lines 21-28; Figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to cure a transparent resin to form a transparent resin layer. One

Art Unit: 1734

would have been motivated to do so to provide protection for the indicator layer and increase durability for the key top.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonya Mazumdar whose telephone number is (571) 272-6019. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SM


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